Targeting Habitat Conservation and Protection Efforts in Puget Sound: Whatcom County Marine Resource Committee's Approach

Paul Schlenger and Tom Schadt
Anchor Environmental

Mike Stoner
Port of Bellingham

Abstract

Through ESA listings of salmon stocks and the continued decline of Puget Sound marine fish populations, regional awareness is growing of the key role of estuaries and nearshore habitats in marine ecosystem health. A recent commission convened by Sen. Patty Murray and Rep. Jack Metcalf developed a locally based process to create a "science-based regional system of Marine Protected Areas and the protection and restoration of nearshore habitats" in Puget Sound. This process, commonly known as the Northwest Straits Initiative, is currently federally funded for five years. Through the initiative, each of seven north Puget Sound counties have established Marine Resource Committees (MRCs) to coordinate marine conservation.

In Whatcom County, the MRC has implemented a two-phase approach to meet the following objectives: 1) identify and rank potential habitat protection and restoration opportunities in coastal waters, and 2) develop a long-term strategy for marine habitat restoration. The first phase was to prepare a GIS-based compilation of historical and current data on the marine resources and coastal processes of the county. In the second phase, specific objectives for habitat restoration and protection will be developed and the areas of opportunity identified and prioritized.

Introduction

Several major groups of biological resources in the Puget Sound ecosystem have declined sharply from historic numbers and some have reached critical levels. The Endangered Species Act listing of chinook salmon and bull trout in Puget Sound, as well as the candidate status of coho salmon, three rockfish species, and Pacific herring clearly demonstrate the critical nature of these declines.

In response to these declines, in particular the threatened status of chinook salmon, citizen volunteers, municipalities, tribes, and state and local agencies have initiated numerous efforts to help restore freshwater and estuarine ecosystems. As public and private organizations plan future restoration activities, it is useful to evaluate how a project fits into the area's habitat needs and how its anticipated benefits stack up relative to those provided by other possible projects. Such a prioritization effort is key to maximizing our abilities to conserve and restore the area's biological resources, especially considering the reality of limited funding.

In Whatcom County, the county's Marine Resources Committee (MRC) is undertaking a prioritization effort to determine how to focus their habitat restoration and protection efforts. The Whatcom County MRC is one of seven county MRCs established in northern Puget Sound and the Northwest Straits. The MRCs were established recently as part of an initiative by Sen. Patty Murray and Rep. Jack Metcalf. This initiative, commonly called the Northwest Straits Marine Conservation Initiative, is providing a way for local, tribal and community groups to work together to protect our marine resources. The Initiative's main objectives are to establish a locally based process to create a regional system of Marine Protected Areas and protect and restore nearshore habitats throughout the Northwest Straits. Whatcom County MRC is comprised of 18 local citizens with representatives from the scientific community, local and tribal governments, and economic, recreational and conservation interests.

Approach to Identifying Sites for Restoration and Protection

The Whatcom County MRC is implementing a two-phase approach to identifying sites for restoration and protection. The first phase is the compilation of existing information on the biological and physical resources in the county's marine areas. This compilation is an important tool for identifying areas that are especially valuable ecologically and meriting protection or those areas in need of restoration (Anchor Environmental 2000).

Data were compiled on several biological and physical resources of the county. These include bathymetry, substrate, lateral drift cells, vegetation, major groups of fish and shellfish, marine mammals, and birds. A variety of sources were used in this compilation of existing data, including information from state agencies such as Fish and Wildlife, the Department of Natural Resources, Ecology, the Department of Health. Additional information available from federal, local, and University research efforts was also used.

Resource information was mapped using ArcView GIS. The GIS format provides an excellent way to display the information for a large area and allows flexibility to show different resource distribution combinations. The data compilation and graphical display effort not only indicated key areas for resources, but also points out areas of data gaps. One data gap identified was information on shoreline armoring in the county. To address this data need, citizen volunteers were trained by People for Puget Sound and ReSources and set out to map bulkhead and dock distributions at sites along the county shoreline.

Following data compilation, the second phase is to develop a long-term strategy for restoration and protection. The Whatcom County MRC is currently working on this strategy. The strategy will be based on specific objectives for the restoration and protection efforts. The objectives will help define the scope of the efforts, including the target resources to be considered. Specific objectives must be defined before site selection because they will drive the evaluation of existing information and in large part form the evaluation criteria. This evaluation will lead to the identification and prioritization of sites for protection and restoration.

Habitat Restoration and Objectives to Consider

To assist the Whatcom County MRC with their efforts to develop specific objectives, the data compilation report included examples of habitat and resource objectives to consider (Anchor Environmental 2000). These objectives are intended as starting points for the MRC to consider as they evaluate existing resource information and determine the criteria to use in prioritizing sites. Following are some of the habitat objectives suggested in the data compilation report (Anchor Environmental 2000):

- Restrict use/development in critical habitat areas—that is focus efforts on protecting sensitive habitats throughout the shoreline and offshore areas.
- Maximize shoreline vegetation in historically vegetated areas—eelgrass habitats have decreased greatly in Puget Sound, such an objective would focus efforts on restoring vegetation coverage.
- Maximize viability of estuaries—this includes providing clean sediments, low gradient slopes, and maintaining natural longshore drift processes.
- Maximize habitat connectivity—connective corridors between river to estuarine nursery areas and open water habitats are important.

The Resource Objectives focus more on the types of resource group responses to work towards through protection and restoration efforts. Following are some of the resource objectives suggested in the data compilation report (Anchor Environmental 2000):

- Maintain productivity in healthy areas.
- Contribute to measurable increases in factors supporting bottom fish recovery—such factors may include spawning age, average fish size and abundance of prey species.
- Contribute to increases in key marine indicator species—this can include prey items such as forage fish.

With these habitat and resource objectives in mind and based on the existing information gathered, the data compilation report included the following recommendations of key areas to be considered for protection and restoration:

- Intertidal and nearshore areas—these areas provide necessary habitat for juvenile fish and shellfish rearing and forage fish spawning. Specific objectives will dictate what subset of these areas to assign high priority for restoration/conservation.
- Extensive or isolated areas of vegetation, especially eelgrass. Eelgrass beds support many fish and shellfish resources that rely on the presence of the vegetation at varying life history stages.
- Diverse areas surrounding islands—these waters provide a diversity of habitats. In Whatcom County, Lummi, Portage, and Eliza Islands support a wide range of fish and shellfish resources.
- Unique features or habitats—areas such as Alden Bank, other offshore reefs, and the rock outcroppings to the west of Lummi Island are unique features in the county.

Conclusion

The Whatcom County MRC is continuing its efforts to identify and prioritize sites for conservation and restoration. They intend to develop specific objectives for restoration and protection that will be used to evaluate the existing information on the distribution of biological and physical resources in the marine environment. Based on this evaluation, the Whatcom County MRC intends to identify and prioritize sites for conservation and restoration.

References

Anchor Environmental. 2000. Marine Resources of Whatcom County. Prepared for Whatcom County Marine Resources Committee. May 2000.